

as the Richmond. I therefore accept these. In the north, *alberti* has been frequently recorded around Tambourine Mountain, and its usual habitat is spoken of nowadays as the MacPherson Range, but how far west each ranges I am not prepared to say. If *alberti* is a Richmond River and Logan River bird, and *novæ-hollandiæ* a Clarence River species, they should extend as indicated on the map, and a glance at this will show best what is meant. I will definitely vouch for the range of *edwardi* as shown in it. Further, *edwardi* certainly meets a Clarence River bird in the region of the Taloom Scrub and Range, and the sweep up north into Queensland to enter once more the western watershed is by way of this remnant of what was once the "Big Scrub" of the Clarence. But whether it extends over the Main Range into the MacPherson, I am not prepared to say, though it should do as the Taloom Scrub runs up into the region of Mt. Lindsay. Apparently then, *M. novæ-hollandiæ edwardi* would seem to be a highland and western race of the lowland Clarence bird, irrupting into Queensland and the western watershed at two points, making direct contact with *novæ-hollandiæ* in the region of the Taloom Range *via* the granite bastions to the east of Tenterfield, referred to earlier, and with *alberti* in the region of the junction of the Main Range and the McPherson Range east of Killarney.

My thanks are due to Mr. James Henderson for the map and photographs, to Mr. Douglas Eden for the drawings, and to Mr. W. Meharg for placing his bushcraft at my disposal in all weathers and at all times.

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## The Dusky Miner (*Myzantha obscura*), Gould, with its sub-species, compared with the Yellow-throated Miner (*Myzantha flavigula*), Gould.

By EDWIN ASHBY, F.L.S., M.B.O.U., "Wittunga," Blackwood, South Australia.

I have always been dissatisfied with Gregory M. Mathews' treatment of *Myzantha obscura*, treating it, as he does, as a sub-species or geographical race of *Myzantha flavigula*, Gould.

In November of last year, I collected specimens of what were supposed to be typical *M. obscura* at Moora, about 150 miles north-east of Perth, in Western Australia. In my article in *The Emu*, xx., p. 136, attention was called to the dissimilarity of these birds to an example of *M. obscura* I had collected near Perth in August, 1901.

Later on, Mr. C. E. Orton was good enough to send me specimens which he had taken at different seasons of the year, and from which I was able to make fair skins. These investigations satisfied me that *M. obscura* deserved full specific rank, and really was not a sub-species of *M. flavigula*.\*

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\* The Check List Committee at the Sydney Session of the R.A.O.U. separated these birds as two species—Eds.

It was easy to recognise two Western Australian forms and one eastern form. (1) *M. obscura*, Gld. *sensu stricto*, inhabiting the wet forest country from Perth southwards, a dark, large-billed bird. (2) The bird from Moora, a small-billed, lighter and generally smaller bird. (3) The far eastern bird described by Mr. F. E. Wilson as *M. melanotis*, and inhabiting the belt of Mallee from the River Murray eastward across the Victorian border to the Kow Plains. This is also a small-billed form, and in general size and build, very similar to the Moora bird, but easily distinguished by the black of the lores being carried right over the eye and joining the black auricular region. The upper tail coverts are in this species the same dark brownish-grey as the back, whereas in all the Western Australian forms the tail coverts are lighter than the back; this I recognised as sub-species No. 2 of *M. obscura*.

For the past year I have been endeavouring to obtain a sight of Mathews' *M. flavigula clelandi*, from Broome Hill, W.A. While satisfied with the correctness of the conclusions stated above, one could not help feeling that any paper published without reference to Mr. Mathews' *clelandi* would be inconclusive. Was Mathews' *clelandi* identical with or closely allied to the Moora bird or was it really a sub-species of *M. flavigula*?

On the occasion of a hurried visit to Melbourne on the 8th and 9th of November, the writer has in company with Mr. A. J. Campbell been privileged to examine, through the courtesy of the Curator, Mr. J. A. Kershaw, the very fine series of the genus *Myzantha* in the "H. L. White Collection" in the National Museum, Melbourne.

As I suspected, the race from Broome Hill is certainly referable to *M. obscura* and not to *M. flavigula*, and is intermediate between the dominant form and the Moora bird. I do not think we are justified in recognising more than one sub-species of *obscura* in Western Australia, and as Mr. Mathews has designated the Broome Hill bird under the name *clelandi*, we shall probably have to refer all variants in W.A. to that sub-species or the dominant species, but for the purposes of this paper I will designate the Moora bird as *M. obscura ortonii* after the gentleman who has assisted me with specimens, and has done so much work amongst the birds of Western Australia. This race seems to be the extreme variant of *obscura* in Western Australia, and it is possible that it occurs in the belt of coastal mallee and timber as far east as the Nullarbor Plains, and it is not unlikely that there may be a link between *ortonii* and *melanotis* still to be found between Eyre's Peninsula and the Nullarbor Plains. I should like to have taken measurements of the very fine series in the "H. L. White Collection," but time did not permit.

### ***Myzantha obscura*, Gould. Dusky Miner.**

Large bill, culmen 27 mm. Upper side, except tail coverts, dark brownish-grey, under side about the same tone without the

brownish shade; chin, throat, and cheek about the same shade of dark, brownish-grey as crown and neck. By cheek throughout this paper is meant that strip of feathers between the gape and the lower extension of the lower mandible, and extending well below the ear coverts and measuring about 18 mm. in length. Upper tail coverts a paler shade than the back, but otherwise the same colour.

One specimen, female, collected by writer near Perth, at Bayswater in August, 1901.

One specimen, male, from near Perth, in S.A. Museum, similar to above.

One specimen in National Collection, Melbourne, not quite typical, probably a juvenile, from Guildford, near Perth. Another specimen in same collection labelled as from near Perth (no locality) is the inland form, *clelandi*, Mat.

(a) Northern Variant.—Two males were sent to me in the flesh by Mr. C. E. Orton on 20th October last from Dandaraga, about 100 miles north from Perth, and within 50 miles of the coast. These birds are as large as the birds from near Perth, but are washed throughout with a marked brownish tinge; the cheeks, chin and throat are paler than the crown and neck; they are both evidently breeding, or I should have thought the brown tinge was due to immaturity.

### *Myzantha obscura clelandi*, Mathews.

Small bill; differs from the dominant form in being generally paler; cheek, chin and throat paler than crown and neck.

Three specimens in the "H. L. White Collection" collected by Mr. Tom Carter at Broome Hill, 200 miles S.E. of Perth, and marked *obscura*.

Two specimens, both males, from the Stirling Range, the nearest part of which is about 25 miles south of Broome Hill. These were collected by Mr. Whitlock.

### *Myzantha obscura ortonii*, Ashby.

Small bill; culmen 20 mm. Differs from *M. o. clelandi* in being generally paler, the brown tinge present in all the other forms from W.A. being almost absent; the cheek, chin, and throat silvery grey.

Four specimens in my own collection, two of which were taken by myself from Moora, which is situated about 100 miles north of Perth and the same distance from the coast.

One specimen, a very large one, in the "H. L. White Collection," marked *obscura*, from Esperance Bay, about 250 miles further to the east than any of the other localities referred to. But for its large size this Esperance Bay bird corresponds closely to the birds from Moora.

### *Myzantha obscura melanotis*, Wilson.

Small bill; culmen 20 mm. Differs from *M. obscura sensu stricto* and the two sub-species noted above, in that the black of

the auricular region is continued right over the eye to the lores. It differs from *clelandi* and *ortoni*, in having dark grey cheeks, almost as dark as the dominant form, but it corresponds with *ortoni* in the almost silvery-grey of the chin and throat, but in the eastern form there is some evidence of streaking on the chin and throat. The whole of the under side corresponds with *ortoni*, but the upper side is almost as dark as *M. obscura*, but it differs from all the western forms in showing no paling of the upper tail coverts, they being practically the same shade of brownish-grey as the back. The yellow gular mark is most developed in *ortoni* and least developed in *melanotis*; in fact in this latter form it is sub-obsolete.

This very distinct form has up to the present only been recorded in South Australia from that belt of mallee lying, roughly, between a point 20 miles south of Loxton to the Pinaroo railway line, and commencing within a few miles of the River Murray and extending eastward to the Victorian border. This bird inhabits an eastern extension of this belt as far as the Kow Plains in Victoria.

I have taken a nice series at Karoonda, and also within five miles of the River Murray, 10 miles north of Mannum. *Myzantha garrula*, Latham, is common in the large red gums along the banks of the Murray, but five miles back in the mallee the bird under discussion is the only species of *Myzantha* seen.

In the "H. L. White Collection" are two skins—a male and female—from Kow Plains in Victoria, which are identical with the Karoonda specimens.

### *Myzantha flavigula*, Gould. Yellow-throated Miner.

Differs from *Myzantha obscura* and its three sub-species dealt with in this paper, in having white cheeks, almost white chin, strongly developed yellow gular marks and extremely light, almost white, upper tail coverts.

These features are consistent in all the forms, and while there is some range of divergence in specimens from widely separated localities, their general tone is characteristically lighter than any of the forms of *M. obscura*. I have in my own collection specimens mostly collected by myself, from Pungonda, 20 miles south of Renmark, near Broken Hill, Mt. Gambier, Port Germain and Leigh's Creek, all, with the exception of Broken Hill, in South Australia. I also collected this bird in August, 1901, on the gold-fields in W.A. at a point about 300 miles due east of Moora.

In the "H. L. White Collection" I saw a very fine series commencing at the Murchison and extending round the north-west of the same State through the Northern Territory, through the Gulf country into Queensland, in addition to skins from New South Wales and Victoria. The whole of the series are consistent in their general characters and easily separated from any of the forms of *obscura*.

Conclusion.—The claim that *M. obscura*, with its variants, is a geographical race of *M. flavigula* is, I contend, without sub-

stantial foundation. I was much astonished to find *M. flavigula* at Pungonda, on the Victorian border, the skin taken by me, corresponds with those I have taken on Spencer's Gulf and east of Broken Hill. I also saw in the "H. L. White Collection" two similar specimens of this species from the border mallee of Victoria. It will thus be seen that the range of the habitat of these two distinct species, almost, if not quite, overlaps; certainly they come within 20 miles of one another.

Another interesting feature is that the specimens collected by the writer at Speakmans, on the W.A. goldfields, 400 miles inland, were certainly *M. flavigula*, whereas at the same latitude 300 miles further west we have *M. obscura orton*i, and in a coastal range 50 miles further west we have a large-billed variant of *M. obscura*.

It appears as if the whole question of habitat resolves itself into one of rainfall and its attendant vegetation. Thus as far as my experience goes, *M. flavigula* is found within the salt-bush and blue-bush area, in all the localities given by me above, from the Victorian border at Pungonda to the far west at Speakmans; this is certainly the case. On the other hand, even Karoonda, in the South Australian mallee, where *M. obscura melanotis* is so numerous, is just outside the line of salt-bush, although not many miles away. Again, in Western Australia, *obscura sensu stricto* is confined to the wet south-west corner of that State in an area probably well defined by the growth of jarrah (*Eucalyptus marginata*), but in the belt of dryer country to the east, well defined by the growth of "Jamwood" (*Acacia acuminata*), we have the two small-billed forms, *M. obscura orton*i in the north, and *M. o. clelandi* in the south, with *orton*i recurring at Esperance. In 1888 I noted that the "Jamwood" grew to perfection in the neighbourhood of Eticup, now called Broome Hill, and last year I noted the same acacia at Moora, though there less robust in growth. Mr. A. W. Milligan, in *The Emu*, iii., p. 11, 1903, says, in his description of the birds of the Stirling Range, "The Dusky Miners were found only in the 'jamwood' (*Acacia*) country at Toll's Creek"; and on the following page, "Again I was not satisfied of the identity of the Dusky Miner (*M. obscura*); the Stirling Range bird appeared to be much smaller than the Swan River bird." Finally I would submit the opinion that *Myzantha obscura* is not directly descended from *Myzantha flavigula*, but that they are each modern representatives of two distinct branches of some ancient stock. The *flavigular* stock have developed the yellow gular mark and yellow tuft at the gape to a striking degree, whereas these features are much modified in *obscura* and in the eastern sub-species, whose habitat overlaps that of *flavigula*, these features are sub-obsolete. It is more than likely that some intermediate form of *obscura* will turn up between Esperance Bay in Western Australia and Eyre's Peninsula, in South Australia. I think it should be sought for in the belt of country between the sea and the line of salt-bush.